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The Cultural Adaptation of Prevention Interventions: Resolving Tensions Between Fidelity and Fit

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A dynamic tension has developed in prevention science regarding two imperatives: (a) *fidelity of implementation*—the delivery of a manualized prevention intervention program as prescribed by the program developer, and (b) *program adaptation*—the modification of program content to accommodate the needs of a specific consumer group. This paper examines this complex programmatic issue from a community-based participatory research approach for program adaptation that emphasizes motivating community participation to enhance program outcomes. Several issues, key concepts, and implementation strategies are presented under a strategic approach to address issues of fidelity and adaptation. Despite the noted tension between fidelity and adaptation, both are essential elements of prevention intervention program design and they are best addressed by a planned, organized, and systematic approach. Towards this aim, an innovative program design strategy is to develop *hybrid prevention programs* that "build in" adaptation to enhance program fit while also maximizing fidelity of implementation and program effectiveness.

KEY WORDS: cultural adaptation; community-based participatory research.

INTRODUCTION

At a coalition meeting in a small traditional community in the Southwest, a concerned community leader stated, "*Para que sirve la ciencia, si no nos ayuda?*" In English, this means, "What good is science, if it doesn't help us?" This challenge to prevention science highlights the need to develop culturally informed and responsive programs that deliver the best science while also addressing the practical concerns of a local community. This paper examines critical issues regarding this existing tension, especially as it affects communities of color: racial/ethnic minority groups and members of other special populations.

The fidelity-adaptation tension involves two competing aims: (a) to develop universal prevention interventions and implement them with fidelity, and (b) to design prevention interventions that are responsive to the cultural needs of a local community. By implication, prevention interventions that are "culturally blind" will fail to prompt community participation, likely eroding program outcome effects (Kumpfer *et al.*, 2002). Conversely, a culturally focused prevention intervention may be culturally appealing thus prompting consumer participation, although cultural appeal if unscientific will not guarantee program effectiveness. Nonetheless, some form of program adaptation is a pervasive practice within communities nationwide (see Ringwalt *et al.*, 2004), and prevention science must offer science-based strategies that regulate adaptation to avoid decrements in effectiveness based on haphazard or inappropriate program adaptations. The ideal strategy is to design an effective science-based prevention intervention that is also culturally relevant.

Adaptation for Racial/Ethnic Communities

The program adaptation approach has emerged from community-based health promotion, that

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emphasizes community-based participation in program planning, evaluation, and research (Flores *et al.*, 1995; Minkler & Wallerstein, 2003a). Effective community-based program design often involves both "top–down" (social planning) and "bottom–up" (locality development) approaches (Minkler & Wallerstein, 2003b). The top–down approach incorporates scientific experts in program design, whereas the bottom–up "grass roots" approach involves mobilizing community to address a common public health concern. Community adoption of a program and its local adaptation are enhanced by community ownership or "buy-in" to motivate and sustain local community participation.

Moreover, acculturation, assimilation, and cultural change are significant concerns among immigrant and racial/ethnic populations (National Alliance for Hispanic Health, 2001), wherein the loss of traditional cultural practices and family supports may compromise the resilience exhibited by some unacculturated populations (Alderate *et al.*, 2000; Martinez *et al.*, 2003). Further research is needed to understand these putative protective mechanisms to incorporate them into culturally informed prevention programs that benefit minority communities. The Ecodevelopmental Model and related culturally oriented systems models may aid in this effort (Szapocznik & Coatsworth, 1999).

Addressing Program-Community Mismatch

Currently, the SAMHSA/CSAP National Registry of Effective Prevention Programs lists 44 model programs that have been rigorously reviewed and evaluated as science-based effective programs and over half of these have received some form of program adaptation (Schinke *et al.*, 2002). Nonetheless, model programs having program activities that conflict with local participant needs are *culturally mismatched* and may require program adaptation. Table 1 presents contrasting conditions between the group used to

Table 1. Sources of Program Mismatch

Source of mismatch	Program validation group(s)	Current consumer group	Actual or potential mismatch effect
Group characteristics			
Language	English	Spanish	Consumer inability to understand program content; a major adaptation issue
Ethnicity	White, nonminority	Ethnic minority	Conflicts in beliefs, values and/or norms; reactance
Socioeconomic status	Middle class	Lower class	Insufficient social resources and culturally different life experiences
Urban–rural context	Urban inner city	Rural, reservation	Logistical and environmental barriers affecting participation in program activities
Risk factors: Number and severity	Few and moderate in severity	Several and high in severity	Insufficient effect on multiple or most severe risk factors
Family stability	Stable family systems	Unstable family systems	Limited compliance in program attendance and participation
Program delivery staff			
Type of staff	Paid program staff	Lay health workers	Lesser or different program delivery skills and perspectives
Staff cultural competence	Culturally competent staff	Culturally insensitive staff	Limited awareness of, or insensitivity to cultural issues
Staff cultural competence	Culturally insensitive staff	Culturally competent staff	Staff will refer to missing cultural elements and criticize the program for being culturally insensitive or unresponsive; misadaptation
Admin/community factors			
Community consultation	Consulted with community in program design and/or administration	Not consulted with community	Absence of community "buy in," community resistance or disinterest and low participation
Community readiness	Moderate readiness	Low readiness	Absence of infrastructure and organization to address drug abuse problems and to implement the program

validate a prevention program, the *validation group*, and the *current consumer group*, where sources of nonfit and "mismatch effect," would threaten program efficacy, despite high fidelity in program implementation. Major sources of mismatch are: (a) group characteristics, (b) program delivery staff, and (c) administration/community factors. When present, these sources of mismatch should be addressed in an a-priori strategic plan for program adaptation that precedes program implementation.

The primary aim in cultural adaptation is to generate the culturally equivalent version of a model prevention program. Table 1 shows how significant differences between a program's validation group and a current consumer group or community can yield a specific mismatch effect. Beyond adaptation focused on race or ethnicity, nonfit can also involve other types of ecological factors (see Table 1). For example, a model prevention program developed and validated primarily with urban White middle class youth may lack fit and relevance by not addressing significant issues that greatly affect Appalachian youth, issues that include: limited growth opportunities for them within an impoverished rural community, the stressors and obligations of traditional kinship ties, and the stressors of urban–rural acculturation conflicts (Wilson & Peterson, 2000). Attention to these local life issues that may increase the risk of substance use among Appalachian youth would likely increase program relevance and appeal, while in principle also increasing program participation and effectiveness.

CULTURALLY INFORMED RESEARCH APPROACHES

Some Guidelines for Program Adaptation to Promote Efficacy and Effectiveness

Recently a set of *program adaptation guidelines* has been proposed (Backer, 2001), which emphasizes balancing program fidelity and adaptation as a best strategy for improved prevention program outcomes. This proposed 12-step approach recognizes the controversies and complexities involved in attaining this balance. This approach is dynamic, evolves over time, and is based on a logic model that aims to preserve a program's core components, while also making adaptations that facilitate program effectiveness within the local environment.

This "Finding the Balance," guide for program fidelity and adaptation (Backer, 2001) consists of the following 12 steps: (a) define the fidelity/adaptation balance; (b) assess community concerns; (c) review a targeted program to determine fidelity/adaptation issues; (d) examine that program's theory of change, logic model, and core components; (e) determine the needed resources; (f) consider available training; (g) consider how to document adaptation efforts; (h) consult with the program developer; (i) involve the community; (j) integrate all prior steps into a plan; (k) include fidelity/adaptation issues into the program evaluation; and (l) conduct an ongoing analysis of fidelity/adaptation issues. Moreover, these steps should be conducted under a rigorous scientific testing and evaluation of the modified program, to ensure that the adapted program is as effective as the original program.

Specific Elements of a Program Adaptation Framework

Cultural Adaptation

Cultural adaptation refers to program modifications that are culturally sensitive and tailored to a cultural group's traditional world views (Kumpfer *et al.*, 2002). Cultural adaptations must move beyond *surface structure* (changing the ethnicity or the appearance of role models), to *deep structure*, by addressing the core values, beliefs, norms, and other more significant aspects of the cultural group's world views and lifestyles (Resnikow *et al.*, 2000). Effective cultural adaptation also involves understanding and working effectively with *cultural nuances* (Castro, 1998) and requires *cultural competence* among program developers, among those adapting the program, and among program delivery staff (Skaff *et al.*, 2002).

Dimensions of Adaptation

Adaptation that is guided by a sound conceptual framework will aid in effectively resolving program-consumer nonfit. Important dimensions to guide adaptation strategies include: (a) *Cognitive-information processing* characteristics such as language and age/developmental level; (b) *Affective-motivational* characteristics as related to gender, ethnic background, religious background, socioeconomic status; and (c) *Environmental* characteristics that include ecological aspects of the local community. Cognitive-informational adaptation is necessary when the current consumer group cannot understand

the program's content, that is, content that is unclear or confusing to them (Castro *et al.*, 2001). Translation from one language to another is the most obvious form of program adaptation. Beyond conceptual equivalence, attaining *cultural equivalence* in translation raises the greater challenge of establishing this equivalence by eliminating sources of cognitive and/or affective conflict or nonfit (Geisinger, 1994; Gonzalez *et al.*, 1995).

Moreover, affective-motivational adaptation involves modifications of program activities that create *cultural conflict* or that *prompt reactance* (behavioral resistance) among consumers, based on a program's imposed conflicts with a cultural group's values or traditions (Castro *et al.*, 2001). For example, an individualistic approach to assertiveness that teaches youth to express themselves openly can conflict with cultural norms in traditional Hispanic, Asian American, or American Indian families, for whom it is inappropriate for a child to question an elder's authority (Dana, 1998; Kumpfer *et al.*, 2002). Such deeper cultural contexts must be considered in making culturally relevant affective-motivational adaptations (Skaff *et al.*, 2002).

Forms of Adaptation

Two basic forms of adaptation involve modifying *program content* and modifying the *form of program delivery*. *Modification of content* may be necessary if a consumer group needs or wants certain programmatic content not offered by the original model program. This content may be incorporated throughout the curriculum or manual, or it may be designed as a complete supplemental module, for example, a module for coping with acculturation conflicts. *Form of delivery* refers to presenting the same program content albeit as delivered with changes in: (a) *characteristics of the delivery person(s)*—lay health workers rather than health educators; (b) *channel of delivery*—internet delivery rather than school classroom; and (c) *location of delivery*—church or community-based organization rather than school classroom, etc.

A Second Generation of Prevention Research: Expanding Models and Practices

Making prevention science responsive to the needs of special consumer groups will require an *expansion* of extant scientific models to include cultural variables and cultural adaptation issues (Castro & Hernandez-Alarcon, 2002). Such cultural variables include: language (e.g., Spanish), systems of belief and value orientations, conservative-traditional community norms, acculturation stressors, etc. These expanded models and their empirical evaluation can inform the development of science-based interventions for special populations. In research with Latino families conducted at the Oregon Social Learning Center, investigators have developed a *hybrid model* that bridges the need for fidelity with the needs for cultural relevance and specificity. In this model, core components of the intervention serve as a foundation for the adapted program, while the program also incorporates the values of the target population to aid in refining the core components and to develop new components (Martinez & Urbana, 2001).

If in the future a large number of culturally appropriate model prevention programs were available, would this obviate the need for hybrid programs? This is an interesting question which implicates differing approaches to the design of prevention programs. An expansion in the number and types of SAMHSA/CSAP model programs may help reduce the extent of the problem of lack of program fit. However, to the extent that a model program does not examine specific and significant needs of a particular community or special population, then local adaptation will still be needed. Moreover, as cultures changes across time, especially youth cultures, hybrid model development will still appear needed. Thus, more choices in available model programs may reduce nonfit, although hybrid programs may still be needed to ensure program-consumer fit.

Some Final Comments

The broad diversity existing within American society underscores the need for programmatic adaptations. The observation that over half of the 44 SAMHSA model programs have conducted some form of adaptation, underscores the fact that among model programs, adaptation is the rule rather than the exception (Schinke *et al.*, 2002). As emerging adaptation guidelines encourage a reasoned, organized, and plannful approach to the fidelity/adaptation issue (Backer, 2001), needed now are rigorous scientific studies on the process of testing cultural adaptations that aim to increase the model program's fit with local community needs. Adaptation strategies that are guided by a clear and culturally informed theory, model, or cultural framework, will make the strongest contributions to prevention science.

Hybrid prevention interventions involve the design of "adjustable" programs that fit the model program with the culture of the local community. However, such strategies for enhancing fit through adaptation should not be conducted without rigorous science-based evaluation and testing. In support of these efforts, and to address the research gap on the scientific basis of program adaptation, the National Institutes of Health could develop research initiatives that would support controlled trials of a culturally adapted version of a model prevention program that is tested against its original version.

Finally, prevention scientists must educate community leaders, gatekeepers and stakeholders on the importance of rigorous scientific research as conducted within minority communities. Community leaders and stakeholders should also be invited in helping to design prevention programs, thus being empowered with a voice in the design of science-based prevention programs that also fit local community and cultural needs (Skaff *et al.*, 2002). This imperative to blend research and practice does not minimize the challenges, complexities, and frustrations involved in working with community-based organizations and with community leaders (Rawson *et al.*, 2002). With this in mind, a thoughtful reply from prevention scientists to community residents regarding the relevance of prevention science to their community is to indicate that, "*La ciencia sí les puede ayudar, pero sólo cuando trabajamos juntos,*"—science can help you, but only when we work together.

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